ABSTRACT OF THE DISCLOSURE

The present invention facilitates semiconductor device fabrication and performance by providing a semiconductor device that can improve channel mobility for both N type and P type transistor devices. The semiconductor device of the present invention is fabricated on a semiconductor substrate 802 that has a first and second crystallographic orientation axes (*e.g.*, <110>, <100>) 804 and 806. Source to drain channel regions for P type devices are formed 904 and aligned along the first crystallographic orientation axis. Source to drain channel regions for N type devices are formed 906 rotated from the channel regions of the P type devices by an offset angle so that the source to drain channel regions for the N type devices are aligned with the second crystallographic orientation axis. Subsequently, a uniaxial or biaxial tensile stress 908 is applied to the source to drain channel regions of the N type devices and a uniaxial or biaxial compressive stress 910 is applied to the source to drain channel regions of the P type devices.